**Breakfast Seminars**

7:00–9:00 AM

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**201 New And Evolving Technologies For Minimally Invasive Lumbar Disc Surgery**

**Moderator:** Richard G. Fessler, MD, PhD

**Panelists**
- Charles L. Branch Jr., MD
- Dean Chou, MD
- Larry T. Khoo, MD
- Jean-Pierre Mobasser, MD

**Course Description**
This seminar will present and evaluate new technologies for treating pathologies of the lumbar disc.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Evaluate the safety and effectiveness of new lumbar disc technologies
- Describe current indications for use of new lumbar disc technologies

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**202 Challenging Spinal Cases: Pearls And Pitfalls**

**Moderator:** Edward C. Benzel, MD

**Panelists**
- Michael W. Groff, MD
- Haynes L. Harkey III, MD
- R. Patrick Jacob, MD
- George T. Reiter, MD

**Course Description**
This seminar is designed to present challenging “real life” spine cases that experienced faculty encountered and to allow discussion of these cases.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Discuss how experienced surgeons overcome decision-making obstacles
- Explain the nuances of the clinical decision-making process

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**203 Building a Comprehensive Spine Center**

**Moderator:** E. Hunter Dyer, MD

**Panelists**
- Juan C. Bartolomei, MD
- Mark D. D’Alise, MD

**Course Description**
This seminar will instruct participants on how to develop a multidisciplinary spine center within their hospital and community setting.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Recognize the core components required to build an effective spine center
- Discuss interventional options and design treatment protocols for spine
- Apply strategies for developing an effective comprehensive spine program
204 Low-Grade Gliomas

Moderator: Linda M. Liau, MD, PhD

Panelists
Susan M. Chang, MD
Hugues Duffau, MD
Manfred Westphal, MD, PhD
Jeffrey H. Wisoff, MD

Course Description
This seminar will provide an update on current evaluation and management of low-grade gliomas. The panel will address the variety of tumors and compare outcomes from different treatment strategies.

205 The Spectrum of Adjuvant Therapy For Brain Tumors

Moderator: Frederick F. Lang Jr., MD

Panelists
Jeffrey N. Bruce, MD
Elizabeth B. Claus, MD, PhD
Randy L. Jensen, MD, PhD
James M. Markert

Course Description
This seminar will provide a state-of-the-art review of the different adjuvant treatment options available for patients with malignant brain tumors. It will review current standards of care and then explore newer treatment options, including targeted therapies, intratumoral strategies, immunotherapeutic approaches and viral therapies.

206 If I Could Do That Case Over Again: Discussion of Complications of Spine Surgery

Moderator: Michael G. Kaiser, MD

Panelists
Iain H. Kalwas, MD
Sergey Neckrysh, MD
Gerald E. Rodts Jr., MD

Course Description
Experienced neurosurgeons of various spine specialties will discuss their own complications and how they would avoid them next time.
207 Cerebral Trauma State-of-The-Art Treatment

Moderator: Alex B. Valadka, MD

Panelists
Austin R. Colohan, MD
Joshua Eric Medow, MD
Raj K. Narayan, MD
Jeffrey V. Rosenfeld, MD, MS

Course Description
This seminar will review current and future treatment options for patients with traumatic brain injury.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss optimal management strategies for patients with traumatic brain injury
• Describe therapies that may become clinically available in the near future

208 Controversies in Cerebrovascular And Endovascular Neurosurgery

Moderator: Erol Veznedaroglu, MD

Panelists
Aclan Dogan, MD
Michael T. Lawton, MD
Elad I. Levy, MD
Christopher S. Ogilvy, MD

Course Description
The introduction and acceptance of endovascular therapies for cerebrovascular disorders has revolutionized the treatment for cerebrovascular disease. With more cerebrovascular neurosurgeons becoming trained in both techniques, the treatment paradigms are changing and often controversial. This seminar will examine the different treatment modalities for carotid artery disease, intracerebral aneurysms and arteriovenous malformations. The panelists will present data and their own personal treatment methods to support their particular position. Each panelist will present their actual treatment paradigms and be asked to support it.

Learning Objectives
After completing this educational activity, participants should be able to:
• Define the indications of either carotid endarterectomy or carotid angioplasty and stenting for extracranial carotid artery stenosis
• Describe the treatment options as well as benefits and pitfalls of giant intracranial aneurysms
• Name the patient population that will benefit from open versus endovascular treatment of giant aneurysms
• Describe the indications and the most effective treatment of small arteriovenous malformations and the role of preoperative embolization
• Use evidence-based medicine in conjunction with current practice to determine which patients will benefit most from endovascular therapies or traditional open surgeries
209 Management of Adult Scoliosis

Moderator: Christopher I. Shaffrey, MD

Panelists
Peter D. Angevine, MD, MPH
Tyler R. Koski, MD
Brian A. O’Shaughnessy, MD
Daniel M. Sciubba, MD

Course Description
This seminar will discuss the strategies, evaluation, and management of adult spinal deformities. Special emphasis will be placed on the association of spinal deformities with conditions commonly treated by neurosurgeons.

210 Neurosurgical Management of Intractable Pain

Moderator: Robert M. Levy, MD, PhD

Panelists
Kim J. Burchiel, MD
Konstantin V. Slavin, MD
Michael S. Turner, MD
Christopher J. Winfree, MD

Course Description
This seminar will review indications, techniques and outcomes of contemporary neurosurgical procedures for the treatment of intractable pain. Attention will be directed toward practical applications of therapies that can be used in a general neurosurgical practice.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss natural history of idiopathic and degenerative scoliosis in adults
• Detail appropriate clinical and radiographic evaluation of adult spinal deformity
• Determine nonoperative and operative treatment options for adult deformity
• Identify patient related factors that compromise surgical treatment
• Discuss treatment strategies, including use of anterior approaches, osteotomies, spinopelvic fixation and osteobiological agents

Learning Objectives
After completing this educational activity, participants should be able to:
• Compare the relative roles of non-invasive and invasive therapies for pain treatment
• Contrast the common indications for stimulation and drug delivery therapies for pain management
• Describe outcomes of neuromodulation therapies for pain management
211 Physician Autonomy in Business Enterprises: Profits And Pitfalls

Moderator: James R. Bean, MD

Panelists
Gregory B. Lanford, MD
Richard A. Roski, MD
Richard N. Wohns, MD
Edie E. Zusman, MD

Course Description
There are strengths and limitations to various issues for physicians involved in spine specialty hospitals. This seminar will review some of the applications and ramifications of clinical effectiveness research in current practices and the likely effects in the years ahead.

Learning Objectives
After completing this educational activity, participants should be able to:
• Assess the strengths and limitations of the various issues for physicians involved in spine specialty hospitals
• Identify the fundamental characteristics and pros and cons of physicians’ financial involvement in spinal implant distributorships
• Explain recent socioeconomic and legal implications for physicians regarding ownership/investment decisions involving medical device suppliers and manufacturers

212 Multidisciplinary Management of Cerebral AVMs

Moderator: Bruce E. Pollock, MD

Panelists
Arun Paul Amar, MD
David M. Hasan, MD
Gary K. Steinberg, MD, PhD

Course Description
This will be a comprehensive discussion of the multidisciplinary management of complex cerebral AVMs. The perspective of neurosurgeons, radio surgeons and interventionists will be presented.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss indications for treatment of patients with AVMs
• Describe the role of radio surgeons and interventionists in the treatment of patients with AVMs

213 Intramedullary Spinal Cord Tumors

Moderator: Paul C. McCormick, MD

Panelists
Lawrence F. Borges, MD
Jacques Brotchi, MD, PhD
George I. Jallo, MD
Russell R. Lonser, MD

Course Description
This seminar will focus on the clinical evaluation and the current surgical management of intramedullary tumors of the spinal cord.

Learning Objectives
After completing this educational activity, participants should be able to:
• Evaluate methods and strategies to reduce peri–operative complications
• Identify operative techniques to optimize safe achievement of optimal outcomes
• Assess recent technical advances in the operative management of intramedullary spinal cord tumors
214 History Seminar: Analysis of Hughlings Jackson’s Foundational Paper, “A Study of Convulsions” (1870)

Moderator: Samuel H. Greenblatt, MD

Panelists
Peter E. Konrad, MD, PhD
Mark C. Preul, MD

Course Description
In 1870 Hughlings Jackson published “study of convulsions.” It became one of the foundational documents of modern neurology and neuroscience, especially with regard to epileptology. Because it dealt with cerebral localization, it was also foundational for modern neurosurgery. Registrants will read the paper before the meeting, so we can discuss the many issues that it raises, e.g., how ‘modern’ is it?, does it really establish the theoretical basis of cerebral localization? The entire audience will be the panelists. Dr. Greenblatt will make a few historical remarks to start, but there will not be any other formal presentations. Note: Please do not sign up for this course if you will not be able to thoroughly read and ponder the assigned material. A quick skim on the plane to New Orleans will not be sufficient.

215 Current and Future Treatments for Pediatric Hydrocephalus

Moderator: Mark G. Luciano, MD, PhD

Panelists
Samuel R. Browd, MD, PhD
Abhaya V. Kulkarni, MD
Joseph R. Madsen, MD
Steven J. Schiff, MD, PhD

Course Description
This seminar will review the physiology of hydrocephalus, and how new shunt systems and sensor technology are likely to change our way of treating patients. The dynamic aspects of CSF flow and pressure gradients will be discussed, as well as what pressure sensors reveal about the causes of patient symptoms and how a shunting system might be made using physiological data.

216 ABNS Board Preparation: What You Must Know

Moderator: Daniel Louis Barrow, MD

Panelists
Alan R. Cohen, MD
Mark N. Hadley, MD
Nelson M. Oyesiku, MD, PhD
Craig A. Van Der Veer, MD

Course Description
The panelists will describe the certification process from residency to ABNS certification. Emphasis will be placed on strategies to prepare for the ABNS oral examination.

Learning Objectives
After completing this educational activity, participants should be able to:
• Understand the historical background to Jackson’s paper
• Explain some of the older, outmoded views of brain science that are found in it
• Explain what it does and does not say that is still part of modern neurology and neuroscience
• Explain why it is also foundational to modern neurosurgery

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify CSF dynamics and how it changes with hydrocephalus
• Distinguish the relationship between clinical symptoms and CSF pressure measurements
• Recognize how this new approach might lead to a better shunt system based on physiological measurements

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss requirements for board certification
• Prepare for the ABNS oral examination
217 Lumbar Interbody Fusion: Direct Lateral Retroperitoneal Transpsoas Fusion

**Moderator:** Regis W. Haid Jr., MD

**Panelists**
John C. Liu, MD  
John E. O’Toole, MD  
Juan Santiago Uribe, MD

**Course Description**
This seminar will describe conditions amenable to lumbar interbody fusion (LIF) and basic surgical approaches, instrumentation and complications of lumbar interbody fusion.

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218 Suprasellar And Juxtasellar Tumors: Complications And Avoidance

**Moderator:** Michael W. McDermott, MD

**Panelists**
Khaled M. A. Aziz, MD, PhD  
Sebastien Froelich, MD  
Theodore H. Schwartz, MD  
Harry R. van Loveren, MD

**Course Description**
This seminar will concentrate on explaining the approaches and indications for surgical therapy of lesions in the suprasellar region in adults and children. Appropriate preoperative evaluation and surgical decision-making will be discussed. Innovative surgical techniques will be presented. Management of the most common lesions arising in this area will be discussed.

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**Learning Objectives**
After completing this educational activity, participants should be able to:
- Describe the indications for lumbar interbody fusion and the appropriate investigations to consider in the workup of patients
- Explain the advantages and disadvantages of various lumbar interbody fusion techniques, including minimally invasive options.
- Explain approaches to minimize complications
- Discuss the relevant approach anatomy related to LIF surgery
- Discuss the latest technical advances related to LIF surgery

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**Learning Objectives**
After completing this educational activity, participants should be able to:
- Review the options for surgical approaches to suprasellar and juxtasellar tumors
- Explain the options for cranial approaches to this region
- Describe the anatomy of the endoscopic transsphenoidal approach
- Describe other treatment options for common suprasellar and juxtasellar pathologies
219 Management of Cerebrovascular And Endovascular Complications: A Case Based Approach

Moderator: Charles J. Prestigiacomo, MD

Panelists
Felipe C. Albuquerque, MD
Brian L. Hoh, MD
J D. Mocco, MD
B. Gregory Thompson Jr., MD

Course Description
Maximizing patient outcomes in cerebrovascular and endovascular neurosurgery requires meticulous attention to detail and a comprehensive understanding of complication avoidance and complication management. Designed as a truly interactive session, this seminar will explore advanced techniques in complication avoidance and management through specific, case-based presentations. Panelists and audience participants will be expected to discuss management alternatives to specific events. A summary of lessons learned, guiding principles and specific nuances will be presented at the conclusion of the session.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss complication avoidance and management techniques in the treatment of aneurysms
• Discuss complication avoidance and management techniques in the treatment of AVMs
• Discuss complication avoidance and management techniques in the treatment of carotid disease

220 Management of Vasospasm

Moderator: Peter David Le Roux, MD

Panelists
Rose Du, MD, PhD
Aaron S. Dumont, MD
R. Loch Macdonald, MD, PhD

Course Description
This course is designed to stimulate interest in the field of neurosurgical pain management. It will provide participants with detailed instruction in both the theory and application of a variety of neurostimulation techniques, including spinal cord stimulation, spinal nerve root stimulation, cranial nerve stimulation, motor cortex stimulation and deep brain stimulation.

Learning Objectives
After completing this educational activity, participants should be able to:
• Explain the rationale for the use of neurostimulation, the types of painful conditions amenable to these techniques and the limitations in their use
• Discuss the proper patient selection to optimize beneficial outcomes when using these treatment strategies
• Discuss the basic operative techniques as well as operative nuances when using implantable devices

221 Surgical Treatment of Parkinson’s Disease

Moderator: Philip A. Starr, MD, PhD

Panelists
Robert R. Goodman, MD, PhD
Paul A. House, MD
Andre G. Machado, MD, PhD
Julie G. Pilitsis, MD, PhD

Course Description
Participants will discuss current surgical targets for Parkinson’s disease, including a variety of technical approaches and complications.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify potential brain targets for deep brain stimulation in Parkinson’s disease
• Discuss technical alternatives in placement of DBS electrodes
• Review complications of DBS for Parkinson’s disease
222 Foraminal And Far Lateral Lumbar Disc Herniations

Moderator: William R. Taylor, MD

Panelists
Benoit Goulet, MD
Patrick W. Hitchon, MD
Noel I. Perin, MD
Paul D. Sawin, MD

Course Description
The clinical and imaging characteristics of foraminal and far lateral lumbar disc herniations, as well as the surgical anatomy, will be presented. The various surgical approaches paramedian, transmuscular and endoscopic will be described, and their indications will be discussed.

223 Return to Play After Sports Injury I—Concussion

Moderator: Mark D. Krieger, MD

Panelists
H. Hunt Batjer, MD
Richard G. Ellenbogen, MD
Mark R. Proctor, MD

Course Description
The identification and management of sports–related injuries has received much recent attention in the press and in the neurosurgical literature. This seminar will address the neurosurgeon's role in evaluating and clearing children, high school athletes, college athletes and professional athletes with concussions.
224 Business of Neurosurgery II—Growth and Management of Office Staff

Moderator: Troy M. Tippett, MD

Panelists
Steven A. Toms, MD, MPH

Course Description
The objective of this course is to highlight the role of various business models in the practice of neurosurgery, so neurosurgeons can adapt with the changes taking place in practices, hospitals, healthcare systems, liability reform, insurances and government agencies. New business tools may help neurosurgeons improve their efficiency and maintain competitive advantages. This course will discuss the various applications of business principles in order to protect and preserve patient care while expanding the neurosurgical practice.

Learning Objectives
After completing this educational activity, participants should be able to:
• Explain how changes in health care practice have imposed administrative demands on Neurosurgeons
• Review the role of various business models in evaluating and implementing healthcare changes
• Assess lessons learnt from various business models, liability reform and steps to decision-driven change management for healthcare.
• Analyze the process of decision making and optimize our role in evaluating future changes, including liability reform, and how these changes should be implemented

225 Shoulder Versus Spine—Differentiating Shoulder and Cervical Spine Pathology

Moderator: Paul Kraemer, MD

Panelists
Nathaniel P. Brooks, MD
Dennis J. Maiman, MD, PhD
Michael L. Smith, MD
Phillip A. Tibbs, MD

Course Description
Patients complaining of pain primarily in the shoulder region may have shoulder or spinal pathology, or a combination of the two. Differentiation of the two is critical for optimal patient care. This course will familiarize neurosurgeons with intrinsic shoulder pathology that may mimic radiculopathy or other cervical spine disorders, and review uncommon radiculopathies, facet syndromes, and other spinal pathology presenting as shoulder pain. Faculty will include a neurosurgical spine surgeon, an orthopaedic spine surgeon, and an orthopaedic shoulder specialist. Anatomy and exam of the shoulder will be emphasized, as will uncommon presentations of common spinal disorders.

Learning Objectives
After completing this educational activity, participants should be able to:
• Review shoulder anatomy, exam, and common disorders that may mimic spinal pathology
• Review upper cervical radicular patterns, facet dynatome maps, and other spinal disorders
• Review pain syndromes which may mimic shoulder or spinal pathology
• Discuss diagnostic strategies to recognize and differentiate between the shoulder and spine
• Review through case examples patients with shoulder and spinal pathology presenting with pain in the shoulder region
226 Stem Cell Therapeutics in Neurosurgery

**Moderator:** Nathan R. Selden, MD, PhD

**Panelists**
Nicholas C. Bambakidis, MD
John A. Boockvar, MD
Anil Nanda, MD, MPH
Dimitris G. Placantonakis, MD, PhD

**Course Description**
Stem Cell transplantation offers the potential to ameliorate a wide range of currently untreatable central nervous system diseases. There is currently limited experience and there are numerous significant scientific, translational and pragmatic challenges to be addressed before such promise may be realized. Speakers will report on scientific underpinnings, delivery mechanisms, early use of stem cell CNS transplantation to treat human disease, and pragmatic and societal challenges to progress.

Learning Objectives
After completing this educational activity, participants should be able to:
- Identify the principle scientific rational for CNS stem cell transplantation
- List various delivery mechanisms for stem cell therapy
- Describe the design and results of early clinical trials
- Identify potential barriers to further progress

227 Getting Your Neurosurgery Research Career Up and Running in Three Easy Steps

**Moderator:** Aviva Abosch, MD, PhD

**Panelists**
Emad N. Eskandar, MD
Robert F. Heary, MD
Michael G. Kaplitt, MD, PhD
Nicholas M. Boulis, MD

**Course Description**
This Breakfast Seminar will be led by academic neurosurgeons with a track record of extramural funding, and will emphasize through personal example that obtaining funding and establishing a successful research program is an attainable goal. The intended audience is residents and junior faculty, with the intent of making the prospect of obtaining funding and doing research seem feasible. A moderated panel discussion with active participation by the audience will follow.
228 Spinal Cord Stimulation in the Neurosurgery Practice

**Moderator:** Jason M. Highsmith, MD

**Panelists**
Joshua M. Rosenow, MD
Richard K. Simpson Jr., MD, PhD
Steven Vanni, DO

**Course Description**
Spinal cord stimulation has traditionally been the last resort in the treatment algorithm for patients with chronic low back and leg pain. Recent developments in technology have enabled better neural targeting with broader coverage and improved outcomes. Consequently more patients can benefit from this therapy and often as an initial intervention. Neuromodulation has increasingly become an ancillary revenue and referral generator for practices.

**Learning Objectives**
After completing this educational activity, participants should be able to:

- Identify the indications for Spinal Cord Stimulation
- Discuss pearls for implantation
- Describe advanced implant techniques such as peripheral nerve and peripheral field stimulation
- Expand procedural offerings to current patient base
- Foster referral relationships with the pain community